



## Windows 7 made easier with Citrix XenDesktop

Windows® 7 presents both an opportunity and a challenge for enterprises and their IT organizations. After years of delayed investments and aging user desktop environments, the implementation of the latest Microsoft operating system will bring dramatic improvements in security, data protection, management, and end user experience. At the same time, the actual rollout of Windows 7, as the largest and most broad-based end-user initiative in many years, will illustrate the outdated models for provisioning and management—especially given the need to accomplish the migration with limited investment in a short time frame. Unless IT can simplify the adoption process, the enterprise faces potential long term disruptions to IT and end users alike.

Desktop virtualization with Citrix XenDesktop™ offers a better way forward. By using XenDesktop to virtualize both applications and desktops, and deliver them to users on demand, IT can enable a rapid, smooth Windows 7 rollout while leveraging existing investments in desktop infrastructure and ensuring that all user data, settings, and critical information is managed and backed up in real-time. In the end, migration costs will be reduced by up to 40 percent. Customers can estimate the ROI and payback period by inputting their key financial metrics using the [XenDesktop ROI calculator](#).

## Windows 7: A Time To Rethink Desktop Delivery

Pent-up demand for Windows 7 is strong. Across the industry, delayed investments in desktop and laptop refresh have been the norm for a year or more due to reduced IT budgets. At the same time, requirements for security and data protection have only increased, and the challenge of delivering and managing a high-quality user experience has grown ever more complex. The introduction of Windows 7 presents the perfect opportunity to update PCs and leverage a new generation of capabilities across the enterprise. As a result, companies now are expected to move quickly to both replace aging hardware and deploy Windows 7.

“For nearly two decades, Microsoft and Citrix have delivered significant value to customers, and we’re excited to expand our work around desktop and server virtualization. Together we are working on technologies product integration so that customers have access to comprehensive and flexible virtualization solutions, all controlled by an integrated management platform.”

**Bob Muglia**

**President**

**Server and Cloud Business**

**Microsoft**

These enterprises have good reason to look forward to Windows 7. To ensure that the operating system addresses IT’s most pressing concerns, Microsoft brought nearly 4,000 customers from developing and emerging markets into its planning process. This extensive research helped identify several key areas of focus:

- Over half of the organizations (56 percent) said they needed help protecting corporate data on laptops.
- Even more (61 percent) wanted assurance that employees could only install and use authorized applications for fear of security breaches from unauthorized applications.
- Nearly half (49 percent) were eager to make it easier for remote workers to access corporate resources.

Designed with these priorities in mind, Windows 7 will deliver considerable benefits, including:

- Improvements in application and hardware compatibility which make it easier to prepare for Windows 7.
- Improvements in data protection, security, desktop and application management, and maintainability which help IT Professionals get more done with less.
- Improved data protection and data management to resolve traditional challenges involving remote and mobile workers.
- Improved support of desktop virtualization to help organizations move quickly toward a dynamic IT environment.

For these benefits to be realized, of course, IT must first complete the migration—a project more broad-based and complex than many such organizations have undertaken in years.

## Today’s Challenges Upgrading To Windows 7

As enthusiastic as IT managers are about adopting Windows 7, they have real concerns about the path forward—and for good reason. A recent survey estimated that Windows 7 upgrades could take 18 months to 2 years—a long time to wait for the anticipated benefits. High migration costs will contend with limited budget resources that allow little room for the unexpected (and in typical migrations, you can always count on the unexpected). The project is likely to be disruptive to both IT and end users, making it all the more important to move as quickly as possible.

These challenges are hardly unique to Windows 7 adoption; they reflect common themes that every IT organization struggles with as they seek to modernize their practices for a new generation of business challenges and technologies. To combat these challenges, IT organizations are focusing on three key areas:

“37% of IT decision makers have identified client virtualization as a critical or top priority over the next 12 months”

Forrester Research:

“Client Virtualization Adoption Trends, October 2009”

- **Increasing business flexibility:** Helping the enterprise respond in a fast and agile manner to new situations, from deploying resources to address new market conditions to integrating employees from a merger.
- **Improving desktop security and manageability:** Ensuring that an increasingly distributed and mobile workforce doesn't compromise security, and that the drive for more agile systems doesn't complicate life for IT personnel.
- **Reducing IT costs:** The mantra of “do more with less” is likely to remain constant regardless of changes in the economic outlook—and the desktop is a key cost vector for every organization.

In this light, even the smooth and successful deployment of Windows 7 in a traditional desktop architecture leaves key problems unresolved:

- Refreshing endpoints with the OEM version of Windows incurs a large expense without creating significant improvements in either user productivity or TCO.
- Installing and supporting operating systems and applications on a desktop-by-desktop basis is time-consuming and labor-intensive.
- Resources that are only available on a specific PC tie users to their computers and make it difficult, if not impossible, for them to work productively on another device. Meanwhile, IT is unable to effectively support contractors, home workers, and other remote personnel.

Rather than adopting a next-generation operating system using provisioning practices left over from the last century, IT should take the opportunity to embrace a truly transformational model—one that simplifies and accelerates deployment while reducing cost, and results in a more useful and easily manageable endpoint architecture moving forward.

## Desktop Virtualization: A Better Way Forward

The essence behind desktop virtualization is simple: it enables the decoupling of the endpoint operating system, applications, and data from the underlying hardware. Desktops are assembled dynamically on-demand and delivered in one of several ways, including streamed desktops, shared server-hosted desktops (i.e. remote desktop services), and client-side virtualization, according to each user's needs.

To users, the virtual desktop looks, feels, and acts like their own, locally managed PC, complete with the same familiar data and personalizations—but with several key advantages:

- The same consistent desktop environment can be accessed through any device, from any location, eliminating lost productivity from a PC which has failed, been lost, or simply been left in the wrong location.
- Similarly, users no longer need to carry a laptop from place to place or fumble with thumb drives; instead, they become truly hardware-independent and able to start work in moments using any computer.

- The elimination of locally installed software also removes local software conflicts, so entire categories of productivity-killing applications problems vanish.
- New applications can be deployed much more quickly, even through a self-service interface, making it easier for users to get their hands on the tools they need, when they need them.

But the real value of desktop virtualization lies in its impact on the IT organization. As the foundation of a new desktop architecture, desktop virtualization frees IT from many of the costs and constraints of traditional approaches while making it possible to implement new technologies far more quickly and cost-effectively. Benefits of desktop virtualization include:

- **Security and Centralized Data Management:** Rather than having users store data wherever they like—a frightening thought from a security perspective—real-time data management instantly captures user data and corporate assets, stores them centrally, and delivers them wherever needed. In the event of endpoint loss, theft, or failure, these resources remain safe in the datacenter.
- **Easy, Low Cost Migration:** Even a broad-based initiative like Windows 7 adoption becomes a much simpler proposition, as all the work takes place in the datacenter and a single operating system image can serve as a golden master for every user—rather than having a separate instance installed on each endpoint.
- **Centralized Identity and Profile Management:** Anytime, anywhere, any device access is provided through centralized profile and identity management. When a user logs into a machine, their information, applications, and settings are delivered to the device. Employee transfers and departures can be managed in minutes, rather than days, as the appropriate resources are simply redirected to the employees who now need them.
- **Centralized Application and Patch Management:** Desktop virtualization greatly reduces the high costs of maintaining and managing applications. An operating system or application can be patched once to serve users throughout the enterprise. If an application fails, instant server-side failover and live migration work to deliver a new application—with no disruption or even awareness on the part of the end user.
- **Centralized Backup and Recovery:** Backup and recovery of all user data, settings, and applications becomes far faster, simpler, and more efficient, as all company assets remain in the datacenter.
- **Streamlined Support:** A failed device can be replaced easily with no need to transfer user data, applications, or personalizations. Endpoint software conflicts are eliminated, as well as most routine end user problems.

## **Citrix XenDesktop: The Right Choice for Desktop Virtualization**

Citrix XenDesktop is a desktop virtualization solution which delivers a complete Windows desktop experience as an on-demand service to any user, anywhere. To help organizations realize the full benefits of this transformational architecture, Citrix XenDesktop uses a model called single-image management: instead of creating, managing, and either hosting or streaming a complete desktop image for each user within the datacenter, IT maintains a single image of each operating system and application. Only user-specific data—which include favorites, templates, and documents—is maintained on a per-user basis. When a user logs

on, the full virtual desktop—operating system, applications, and user-specific data—is assembled on-demand and delivered to them in one of three ways:

- **Desktop streaming** in which a centralized virtual desktop is installed in the datacenter, then delivered remotely for execution on the endpoint;
- **Virtual machine-based desktops**, or virtual desktop infrastructure (VDI), in which the virtualized desktop image is hosted as virtual machines running on a hypervisor located and assembled in the datacenter;
- **Server-hosted desktops**, in which the desktop is hosted on a Windows Server (Remote Desktop Services) and shared among multiple remote users.

As a leader in virtualization for more than 20 years, Citrix has developed several key technologies which maximize the value of desktop virtualization for organizations and employees of all types.

- **On-demand apps by XenApp™ and tight integration with Microsoft Application Virtualization (App-V):** To reduce desktop management cost and complexity, XenDesktop offers application delivery - with Citrix XenApp™ and integrates with the leading industry solution for application streaming, Microsoft's App-V. This enables IT to control data access, manage fewer desktop images, eliminate system conflicts, and reduce application regression testing, where application delivery is a requirement for successful desktop virtualization. For users, XenApp, in combination with App-V, makes it much simpler to add, update, and remove applications by leveraging a self-service app store where they can access applications instantly from any location.
- **Citrix HDX™:** XenDesktop delivers a high-definition user experience for every worker with Citrix HDX, a set of network and display optimizations and performance-boosting technologies which deliver high performance over any network, including low bandwidth and high latency WAN connections. Users enjoy better reliability and higher availability than a traditional PC, even when using multimedia, real-time collaboration, and 3D graphics, while using 90 percent less bandwidth compared to alternative solutions. Webcam and VoIP support, improved audio, 3D graphics support, and the ability to use USB peripherals freely make desktop virtualization a complete endpoint solution for every user.
- **FlexCast™ delivery technology:** Different types of workers across the enterprise have varying requirements for performance and personalization; some require simplicity and standardization while others need high performance or a fully personalized desktop. XenDesktop can meet all these requirements in a single solution with Citrix FlexCast™ delivery technology, which enables IT to deliver every type of virtual desktop, hosted or local, physical or virtual—each specifically tailored to meet the performance, security, and flexibility requirements of each individual user.
- **Citrix Receiver:** Today's digital workforce demands the flexibility to work from anywhere at any time using any device. Leveraging Citrix Receiver as a lightweight universal client, XenDesktop users can access their desktop and corporate applications from any PC, Mac, thin client, or smartphone. This enables complete workplace flexibility, business continuity, and user mobility.
- **Open architecture:** While XenDesktop supports all the industry leading hypervisors, XenDesktop ships with Microsoft's Hyper-V and integrates with App-V. In addition, XenDesktop seamlessly integrates with Microsoft® System Center Virtual Machine Manager making it simple for IT to manage both virtual and physical virtual desktops through a single solution.

## Windows 7 and XenDesktop: Made for Each Other

While the capabilities and benefits described above would be compelling in any scenario, their value becomes all the more compelling in the context of Windows 7. In even the largest-scale Windows 7 deployment, XenDesktop can:

- Enable a smooth, rapid migration
- Reduce migration costs by up to 40 percent
- Simplify ongoing desktop management and updates, reducing TCO by up to 50 percent

XenDesktop enables IT to simplify the deployment of Windows 7 by delivering updated desktops as a service to any endpoint on any network. In addition to the benefits discussed above, this approach offers several key advantages:

- **Getting IT out of the three to four year hardware refresh cycle.** By reducing client-side complexity and moving the maintenance of standard applications and operating systems to the datacenter, desktop virtualization makes it possible to use the same endpoint twice as long while maintaining the same high level of performance. The portion of the Windows 7 budget originally designated for new endpoint hardware can now be redirected—or saved.
- **Minimizing the impact of Windows 7 on applications.** With multiple ways of virtualizing applications (App-V or XenApp), Citrix essentially isolates them from the endpoint and, more importantly, the desktop operating system, eliminating the possibility of incompatibility with other applications or Windows 7.

The adoption of Windows 7 will be the largest and most important end user initiative undertaken by many enterprises for the next few years. The proven record of Microsoft and Citrix as individual companies and as partners should give IT ample confidence as they plan and execute their migration strategy.

- Citrix and Microsoft are known as the industry leaders in all aspects of virtualization.
- Citrix solutions fully integrate with Microsoft's virtualization strategy across datacenter, cloud, desktop, and management.
- Citrix has built its name and reputation in desktop virtualization since the 1990s, when it first extended Microsoft Remote Desktop Services to provide the same operating environment in a new way. Over the past 20 years, Citrix has architected, aligned, and developed that vision into the solution now called Citrix XenDesktop, the clear choice for virtual desktop management.
- The Citrix family of products and services centralizes, virtualizes, and minimizes the complexity of traditional computing, significantly reducing costs, improving information security, mobilizing people, and delivering enterprise agility.
- Today, Citrix offers solutions to more than 230,000 worldwide customers including 99 percent of the Fortune Global 500 enterprise, and hundreds of thousands of small businesses worldwide. These customers are realizing the benefits of Citrix solutions on over 100 million desktops and over 1 million applications.

## Conclusion

While Windows 7 adoption may be a daunting proposition for IT organizations, most or all of the potential challenges involved have more to do with outdated IT practices for provisioning and management than with the operating system itself. By using XenDesktop to deliver Windows 7 as a service to each user as part of a complete, dynamically assembled desktop, IT can ensure a successful migration at a fraction of the cost of a traditional rollout. The resulting next-generation desktop architecture will continue to pay dividends for IT and users alike long into the future.

For more information please visit [www.CitrixandMicrosoft.com](http://www.CitrixandMicrosoft.com)

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### About Citrix

Citrix Systems, Inc. (NASDAQ:CTXS) is the leading provider of virtualization, networking and software as a service technologies for more than 230,000 organizations worldwide. Its Citrix Delivery Center, Citrix Cloud Center (C3) and Citrix Online Services product families radically simplify computing for millions of users, delivering applications as an on-demand service to any user, in any location on any device. Citrix customers include the world's largest Internet companies, 99 percent of *Fortune* Global 500 enterprises, and hundreds of thousands of small businesses and prosumers worldwide. Citrix partners with over 10,000 companies worldwide in more than 100 countries. Founded in 1989, annual revenue in 2008 was \$1.6 billion.

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